U.S. Antarctic Marine Living Resources Program

2012-2013 Weekly Field Reports
Cape Shirreff, Livingston Island

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Science Report

Seabirds

1. Gentoo penguins in the reproduction study have started to hatch this past week. 24% of the study plot nests have at least one chick, 30% are still incubating partial or full clutches and 46% have failed. We estimated peak chinstrap penguin hatch to have occurred on 2 January. To date, 62% of the chinstrap penguin reproduction plots have hatched at least one chick, 19% are still incubating eggs, and 19% have failed.

2. We continue to monitor known-age penguins. Of the 35 known-aged gentoo penguins that initiated clutches 14% have hatched at least one chick, 34% continue to incubate and 52% have failed. Of 59 known-aged chinstraps that have initiated clutches 39% have hatched at least one chick, 12% continue to incubate partial or full clutches, and 49% have failed.

3. We had a visiting macaroni penguin show up at one of our chinstrap colonies on 3 January.

4. Brown skuas have started to hatch this past week Of the 19 pairs of brown skuas that have initiated clutches, 3 are brooding at least one chick, 10 are still incubating partial or full clutches and 6 have failed. Four of the failed nests were found empty after a night of high winds. Three of these nests were brooding chicks.

5. Of the kelp gull nests we've been monitoring at least 15 nests have hatched chicks and 11 are still incubating clutches. The contents of 11 nests have gone missing. We are unable to determine whether these nests have failed or if the mobile chicks are moving throughout the colony; however, the number of chicks seen has declined by 33% this past week.

6. We've seen fledgling aged chicks at the small blue-eyed shag colony but have yet to see fledglings around the Cape.

Pinnipeds

7. Our six GPS/Time depth recorder females for monitoring foraging range and behavior continue to collect data. One of them failed to return before her pup perished. However, she returned yesterday after 35 days. The other five TDRs have collected data on 23 foraging trips. All five have completed at least three trips to sea, and one has completed six trips.

8. Only eight of our 30 CCAMLR attendance females have completed six trips to sea. However, four attendance females have lost their pups to starvation after very long trips to sea or failing to return. One other lost her pup during the perinatal period bringing our sample size to 25. However, thus far none of our attendance females has lost a pup to leopard seal predation.

9. Mean trip duration is longer than last year and four of our study females have lost pups to starvation. Those four have had trips in excess of two weeks. The remaining 25 attendance study females have completed at least three trips to sea. Mean trip duration for the first three trips to sea has been greater than four days. The maximum trip duration for returning females has been 35 days.

10. Five of the pups of the six females that have completed six trips to sea have been weighed according to protocol.

11. We also took our first sample of CCAMLR pup weights on 5 January (30 days after the median date of pupping).

12. We continue to monitor our adult tagged female population and mother pup pairs to get a measure of reproductive success and loss of pups due to leopard seal predation. Pups have begun entering the water and spend considerable amounts of time now playing in shallow water making them easily accessible to leopard seals.

13. We captured six fur seals this week for retrieval of archival geolocation light sensors (GLS) instruments. We have now retrieved 41 of the 45 fur seals that returned after carrying GLS instruments over winter.

14. Fur seal diet protocol requires collecting 10 scats each week for analysis of fish bones, squid beaks, and krill carapaces. This week we collected our third sample. To date 30 scats and 1 vomitus have been collected. The vomit sample collected contained very large squid beaks.

15. On 4 January we completed our seventh weekly Cape-wide Phocid census.

16. Leopard seals continue to arrive and as of 7 January we have recorded 39 sightings of 10 tagged seals.

Weather

17. This week we had a power failure that resulted in a two day loss of weather data. This report covers only 2-7 January. It has been colder than the previous two weeks and our mean temperature was only 0.1°C. We had a series of storms from the east that lasted three of the five days. Winds averaged 21.5 mph with a maximum wind speed of 54 mph. Easterlies dominated all week. Precipitation for the week was 0.35 inches. Sunrise is now at 3:23 am and sunset is at 10:44 pm.

Camp

18. This week has been the windiest since camp was opened. We had two low pressure systems just to the north, which brought gale-force winds three of the seven days this week. We had an accumulation of snow, and most days this week had some below freezing temperatures.

19. The camp is now set-up for scat processing. The team bored through the south wall in the lab, and ran a water hose from the scat water barrel to be fed to the newly-installed scat sink.

20. The strong winds detached the main hut downspout and some precipitation was lost. The downspout was fixed and is now collecting water.

21. The camp collected ~100 gallons of water from both main hut and supply hut rain gutter downspouts. This was the first time we have collected drinking water this season. We hope to continue filling water, as we have 7 full, 6 partially-full and 3 empty drinking water barrels.

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